

APPENDIX
TRANSLATION OF
FR 2 449 473

[0001] The present invention concerns the stirring of a liquid for its homogenisation by a magnetic-driven stirrer system through the wall of a container.

[0002] Numerous models of rods exist for magnetic stirrers.

[0003] The device of the invention has the advantage of:

- 1) allowing efficient stirring in containers of relatively large height in relation to their diameter,
- 2) ensuring efficient stirring without the need for high rotation speeds which have the disadvantage of adding air to the liquid,
- 3) efficiently mixing liquids of high viscosity; depending upon the viscosity of the liquid to be stirred and the shape of container, the device is produced in several different manners.

[0004] The device of the invention is shown in Figures 1 and 3.

[0005] In Figure 1 the driving part in moulded plastic material comprises a body 17 which includes a magnetic rod 3 and a driver 1 formed of a rectangular blade which, housed in lumen 8 of element 11, drives the latter in rotation. Body 17, to facilitate rotation, may be provided with two side rings 2 on moulding, or a central ring 12, Figure 2.

[0006] The stirrer element 11, Figure 3, is preferably made in a plastic material with a density of less than 1, and reserves 9 may optionally be provided which will assist floating after sealing stoppers 10 by bonding or polyfusion.

[0007] Opening 8 is rectangular but of larger size than blade 1 so that it may easily slide over it.

[0008] In figures 4 to 7 two variants of stirrer element 11 are shown which may comprise two spiral wings of opposite pitch 14.

[0009] For the variant in figures 6 and 7 the stirrer element is formed of a disk provided with stirrer teeth 16.

[0010] The plastic parts may be produced using usual machining processes or by plastic moulding.

[0011] Overmoulding of the magnet is made before magnetisation or by moulding 2 semi-shells which are subsequently welded by polyfusion or bonding.

FUNCTIONING

[0012] When the device is placed in position in the container, the floating stirrer element 11 remains on the surface of the liquid and maintains blade 1 vertical.

[0013] When magnetic rod 6 is placed in rotation outside the container, around its axis 7 and by magnetic coupling, body 17 and blade 1 start to rotate at the same angular speed and drive element 11.

[0014] Therefore, irrespective of the height of the container, mixing of the liquid is ensured at the bottom and on the surface.

1 1. Device enabling the stirring and mixing of liquid medium in a very high
2 container through the driving of a floating stirrer by a vertical axial blade along which the floater
3 slides to follow the level of the liquid.

1 2. Device according to claim 1 characterized in that the floating stirrer may
2 be provided with 2 spiral wings.

1 3. Device according to claim 2 characterized in that the floating stirrer may
2 be formed of a disk provided with stirrer teeth.